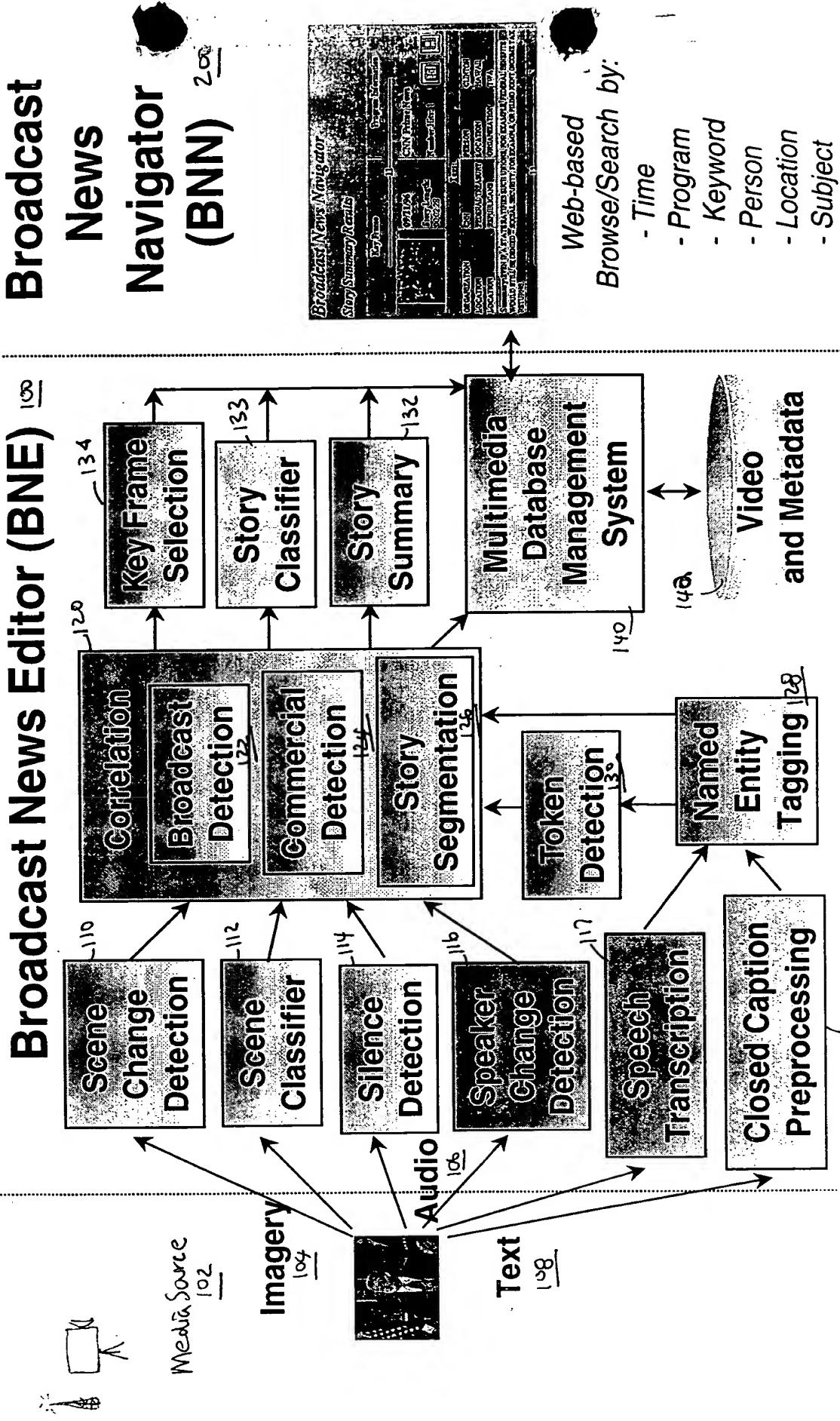
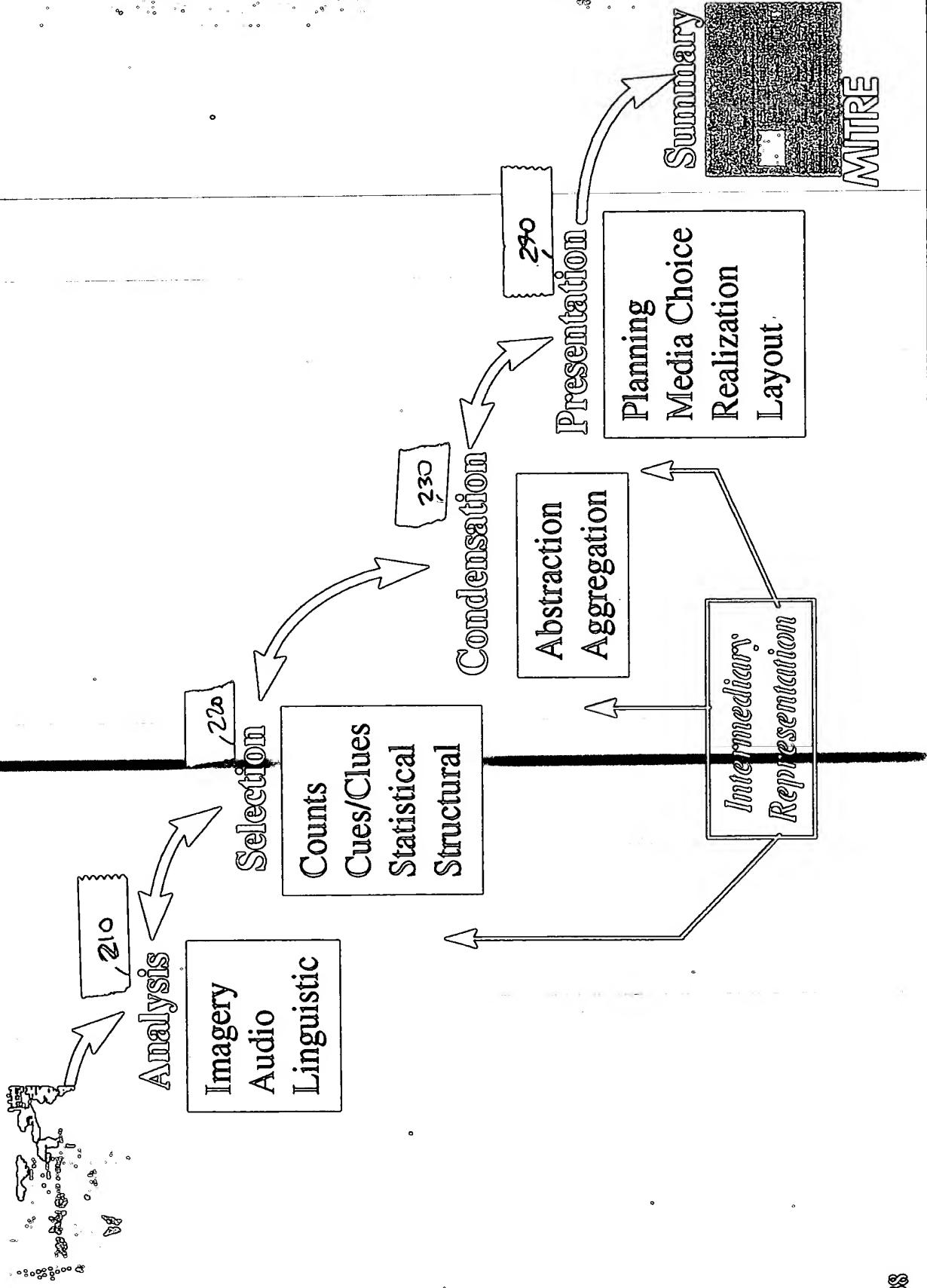


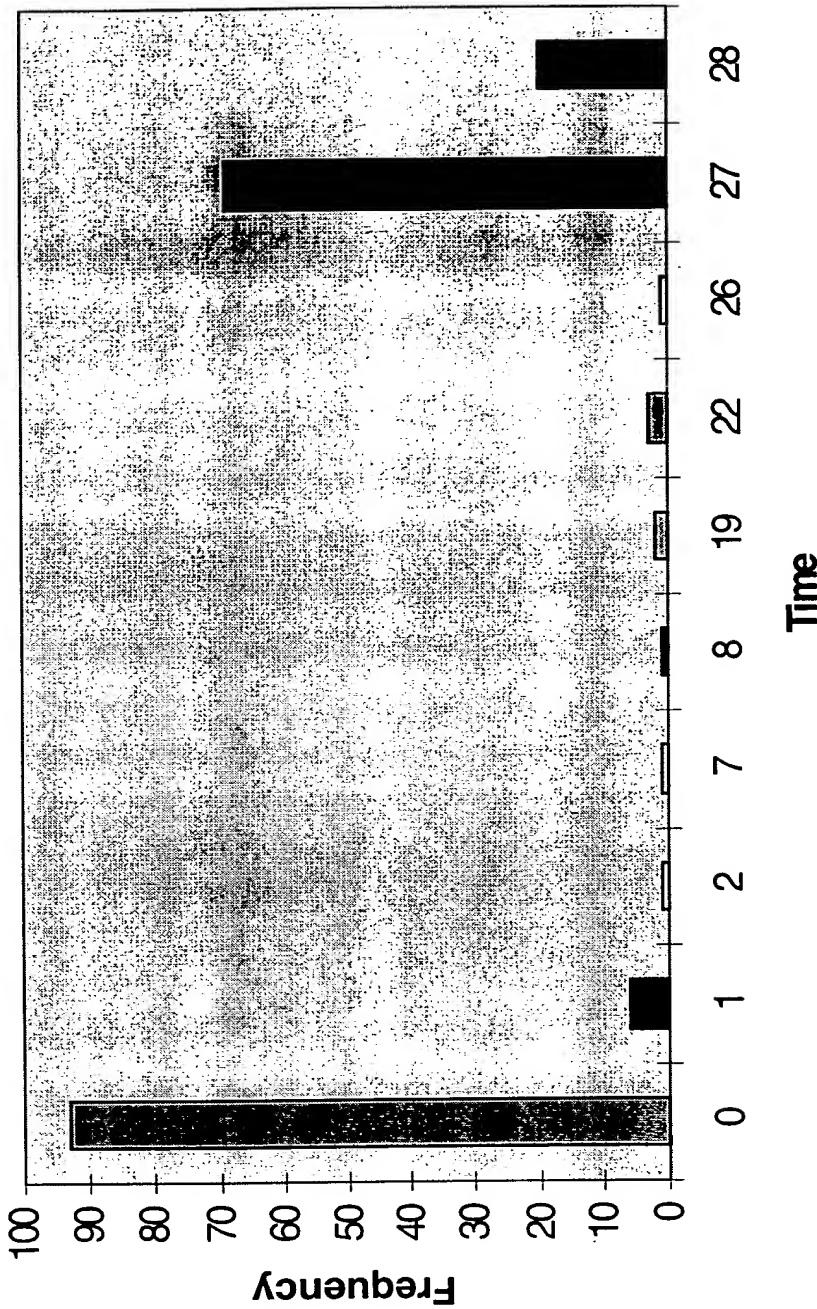
FIG. 1



Video Summarization



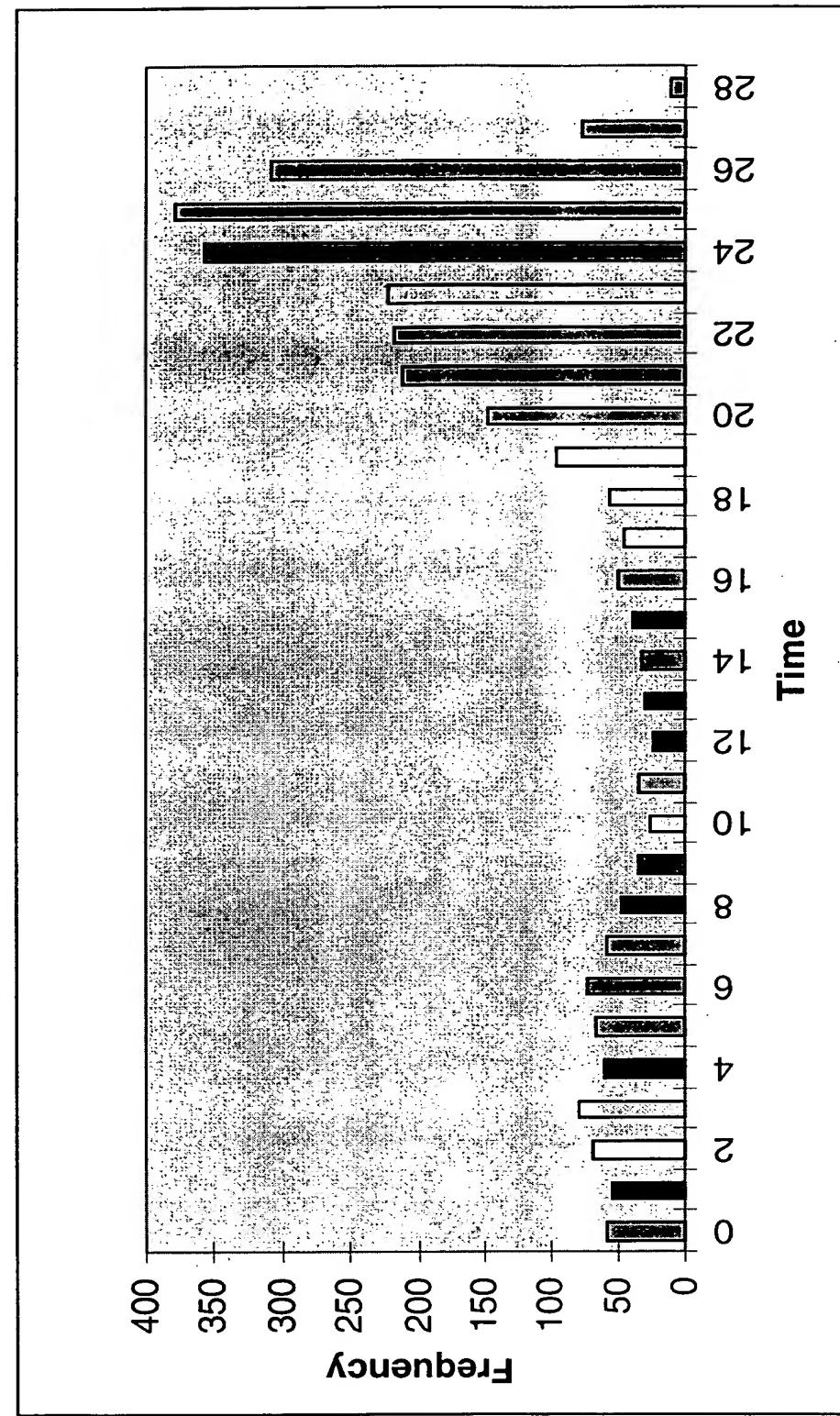
Phrase Frequency -- “I'M” <Person>



Uses Phrase “I'm” and Alembic's detection of a <Person>

Fig. 3

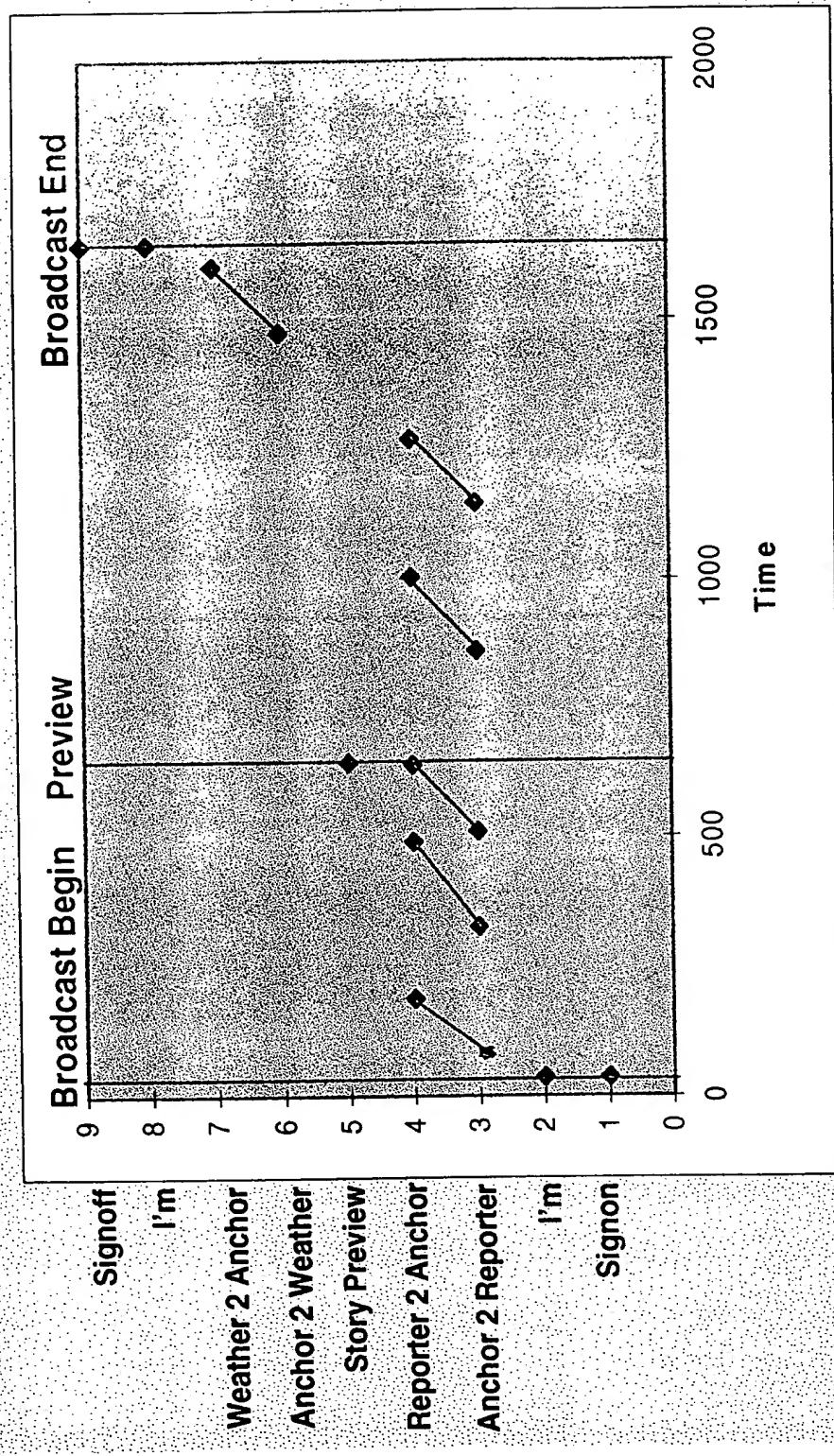
Weather Term Frequency



Most CNN Prime News weather forecasts start after 18 minutes.

FIG. 4

BNA Textual Tokens



CNN Prime 2/25/97

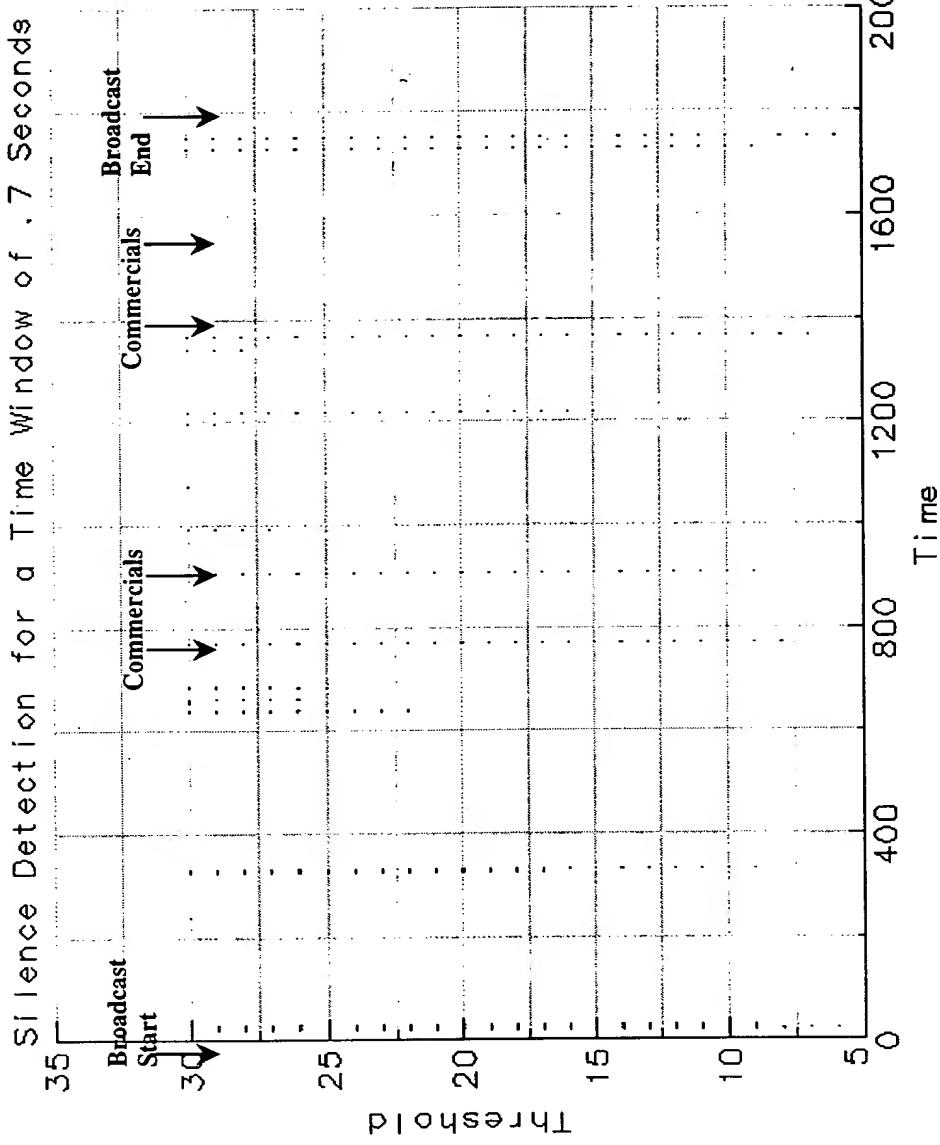
Automatic Detection

No Anchor Replacements

Truth

FIG. 5

Silence Detection



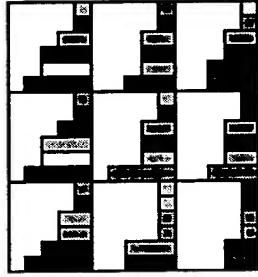
CNN Prime News 12/23/96

Fig. 6

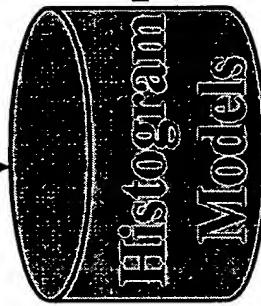
Scene Classification



6 Most frequent colors
for nine quadrants



↔ > Threshold



Classify &
Temporally Filter

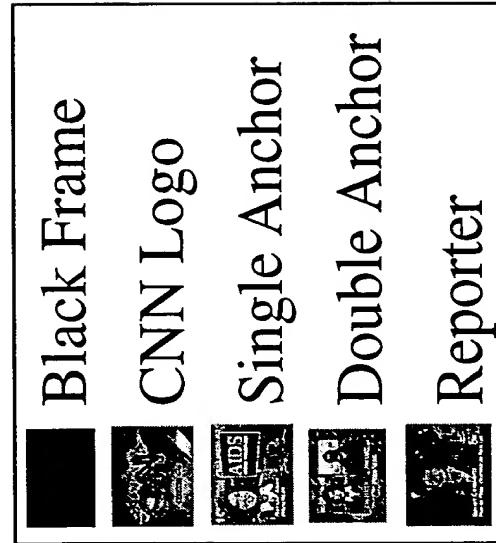
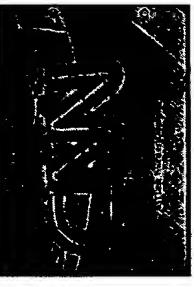
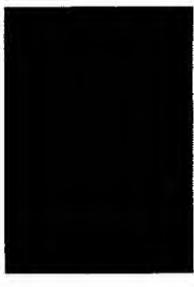


FIG. 7

CNN Graphical Vocabulary



End Logo



Black Screen



Anchor Desk



Start Logo

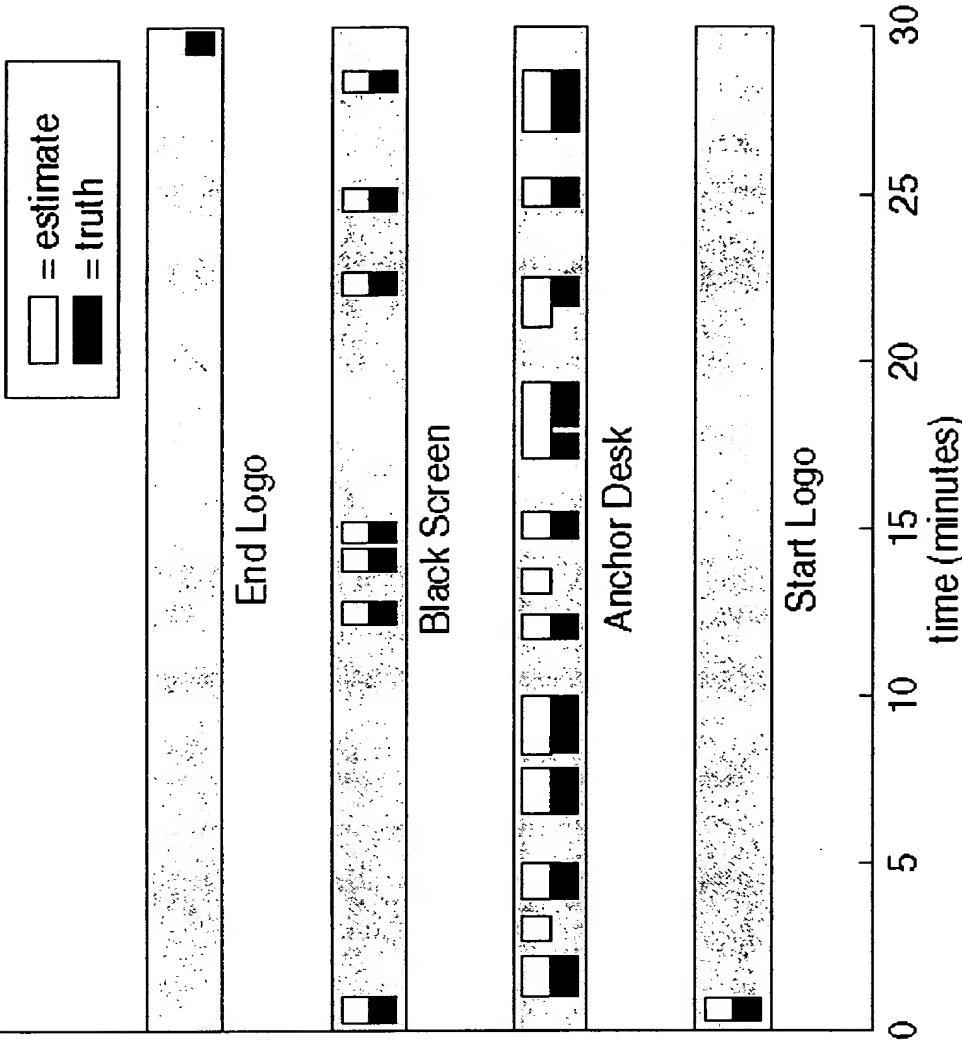


FIG. 8

BNA: Cue Correlation for

CNN Prime News 3/24/97

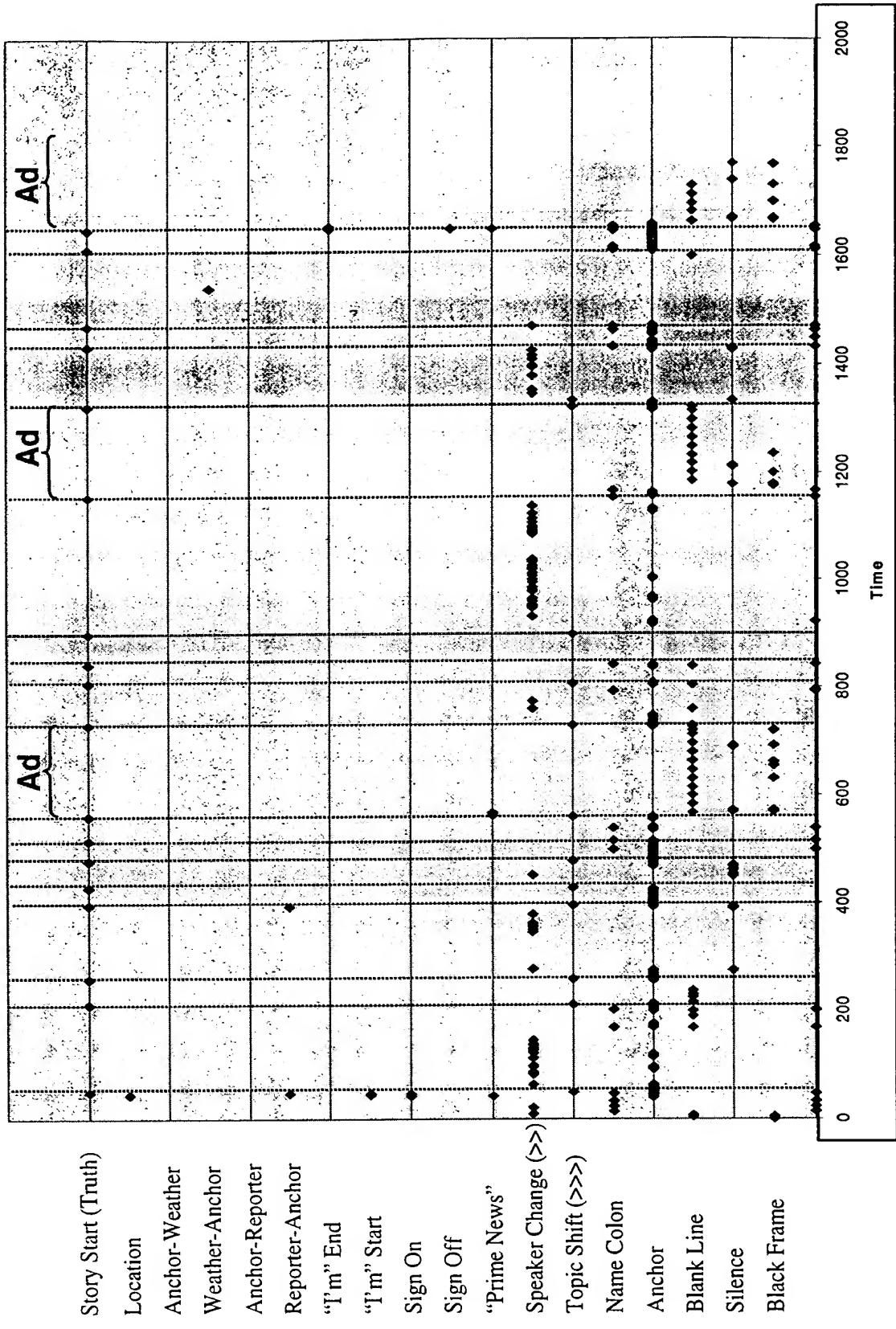


FIG. 9

Broadcast News Analysis: Story Segment Identification Overview

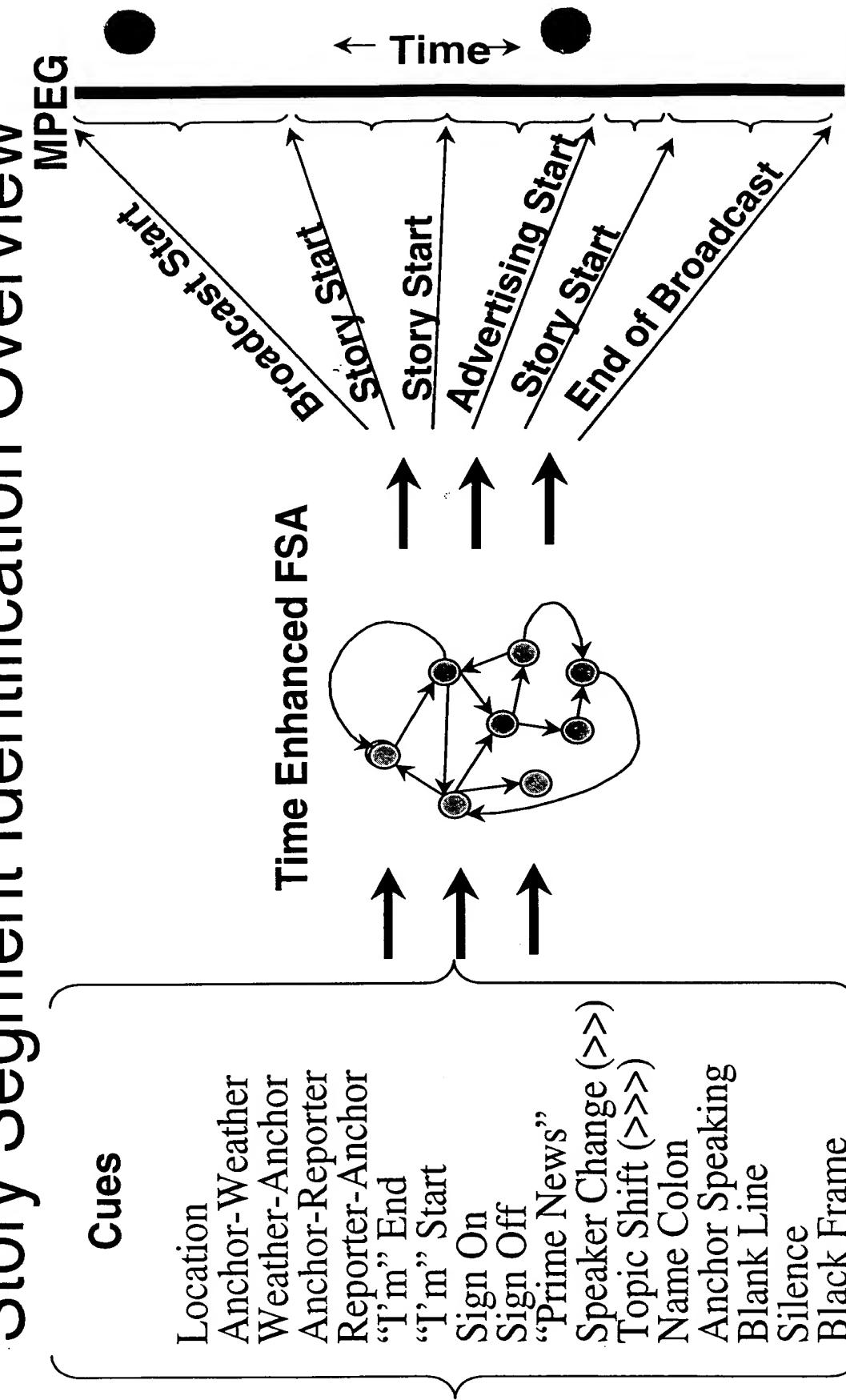


FIG. 10

MITRE

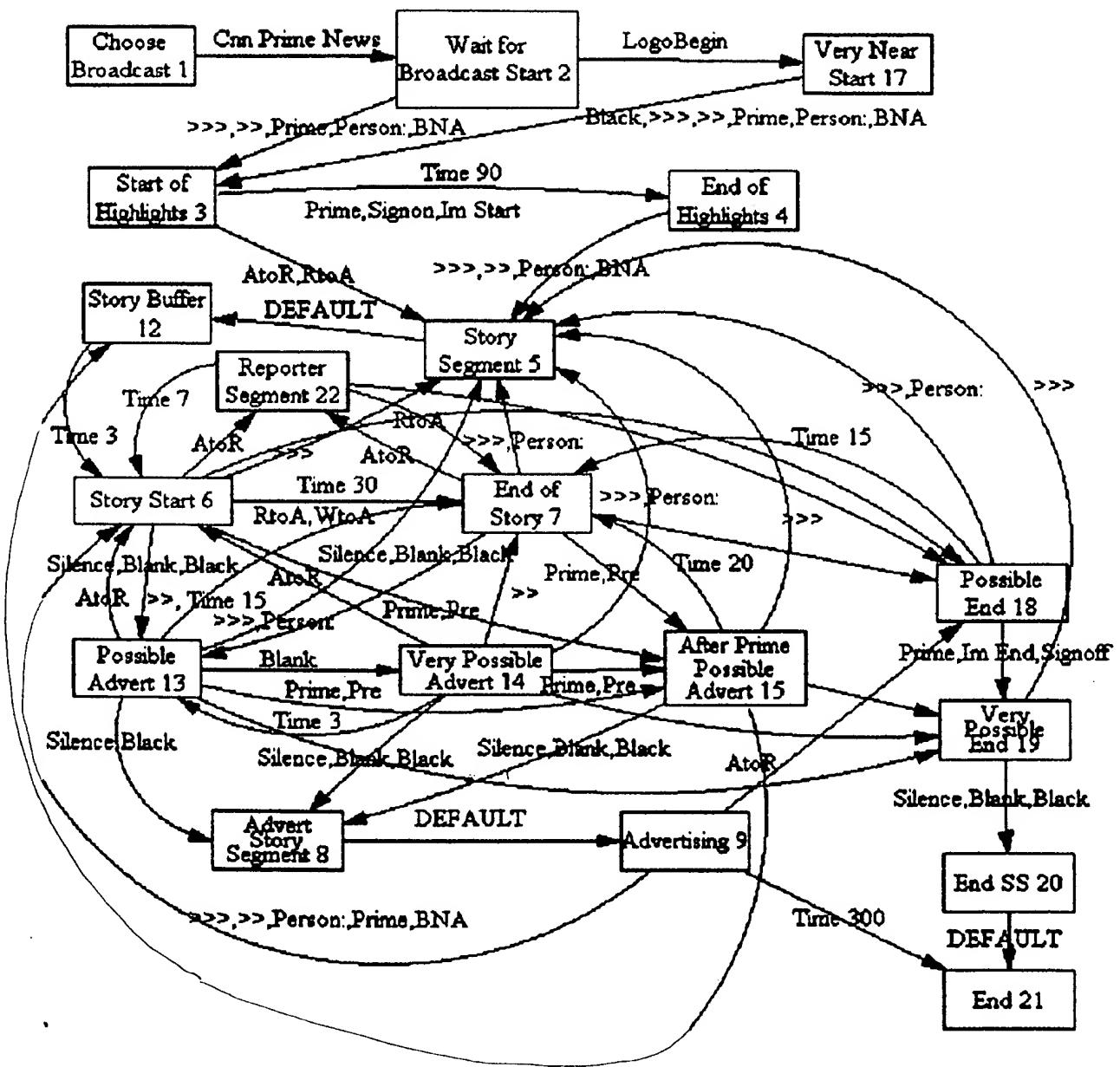


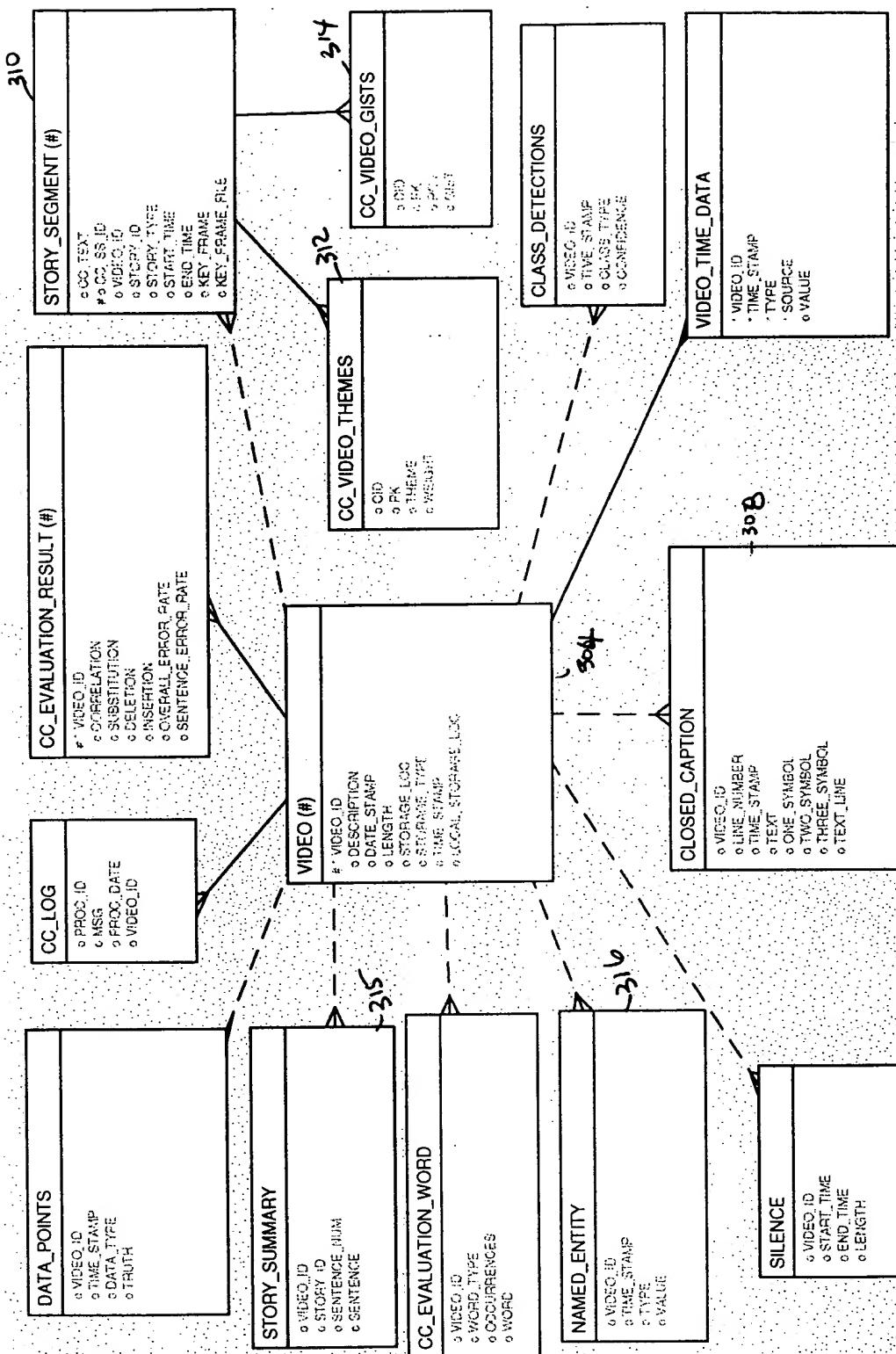
FIG. 11

State_ID Description

- 1 Start
- 2 Wait for Broadcast Start
- 3 Highlights Begin
- 4 Highlights are ending
- 5 Story Segment Detected
- 6 Start of Story
- 7 Near end of Story
- 8 Advert Story Segment
- 9 Wait for Advert End
- 10 Broadcast End Story Segment
- 11 Broadcast Over
- 12 Story Buffer
- 13 Possible Advertisement
- 14 Very Possible Advertisement
- 15 Prime Possible Advertisement
- 16 Prime Highlight
- 17 Very Near Start
- 18 Possible end of Broadcast
- 19 Very Possible End
- 20 End Story Segment
- 21 End Broadcast
- 22 Reporter Segment

FIG. 12

F16.13



Visualizing the News

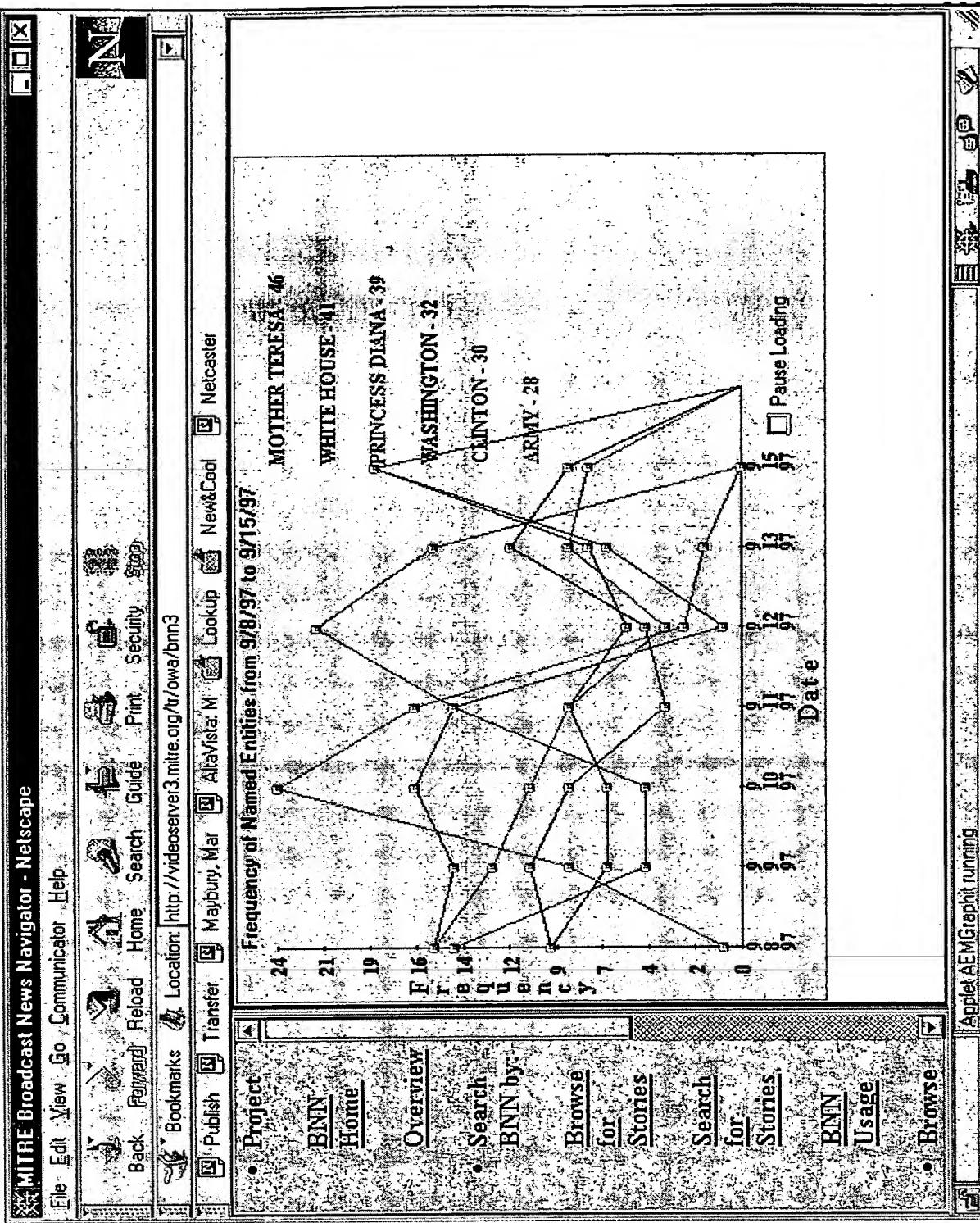
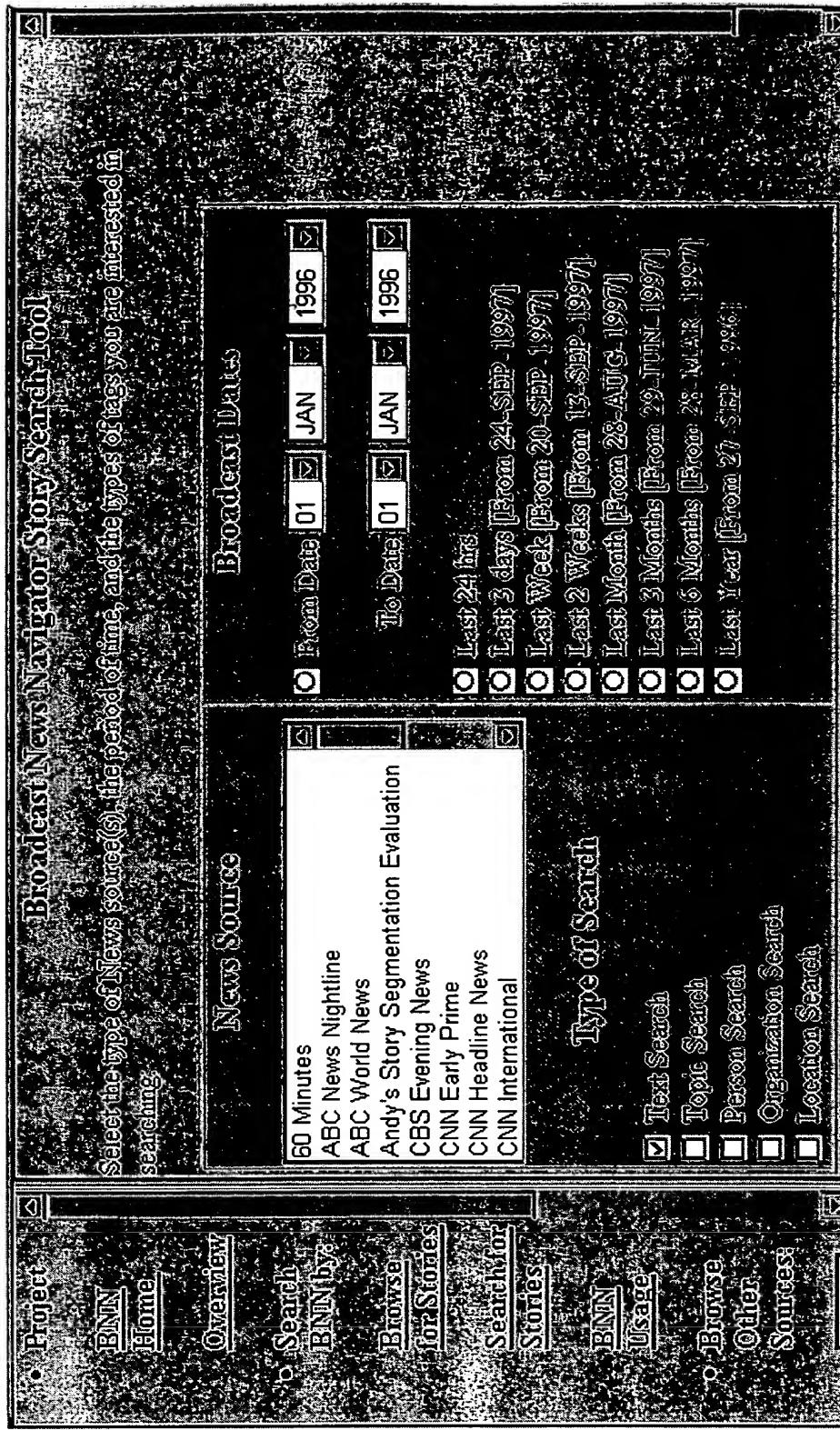


FIG. 14

Broadcast News Navigator Query Screen



5
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BNN Browse

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Fig. 16

Web-user Identifies Time Period and Story Topic of Interest

Broadcast News Navigation

Tag Frequencies for the Last 7 Days

Occurrences	Type	Value
86	ORGANIZATION	CNN
58	LOCATION	SIMPSON
43	PERSON	JENDEN
42	PERSON	MATTHE
31	PERSON	CLINTON
26	PERSON	OFSIMPSON
25	PERSON	JEANNIE
5	LOCATION	WASHINGTON
4	ORGANIZATION	WHITEHOUSE
4	PERSON	NICOLEBROWNSIMPSON

User
Selects

FIG. 18

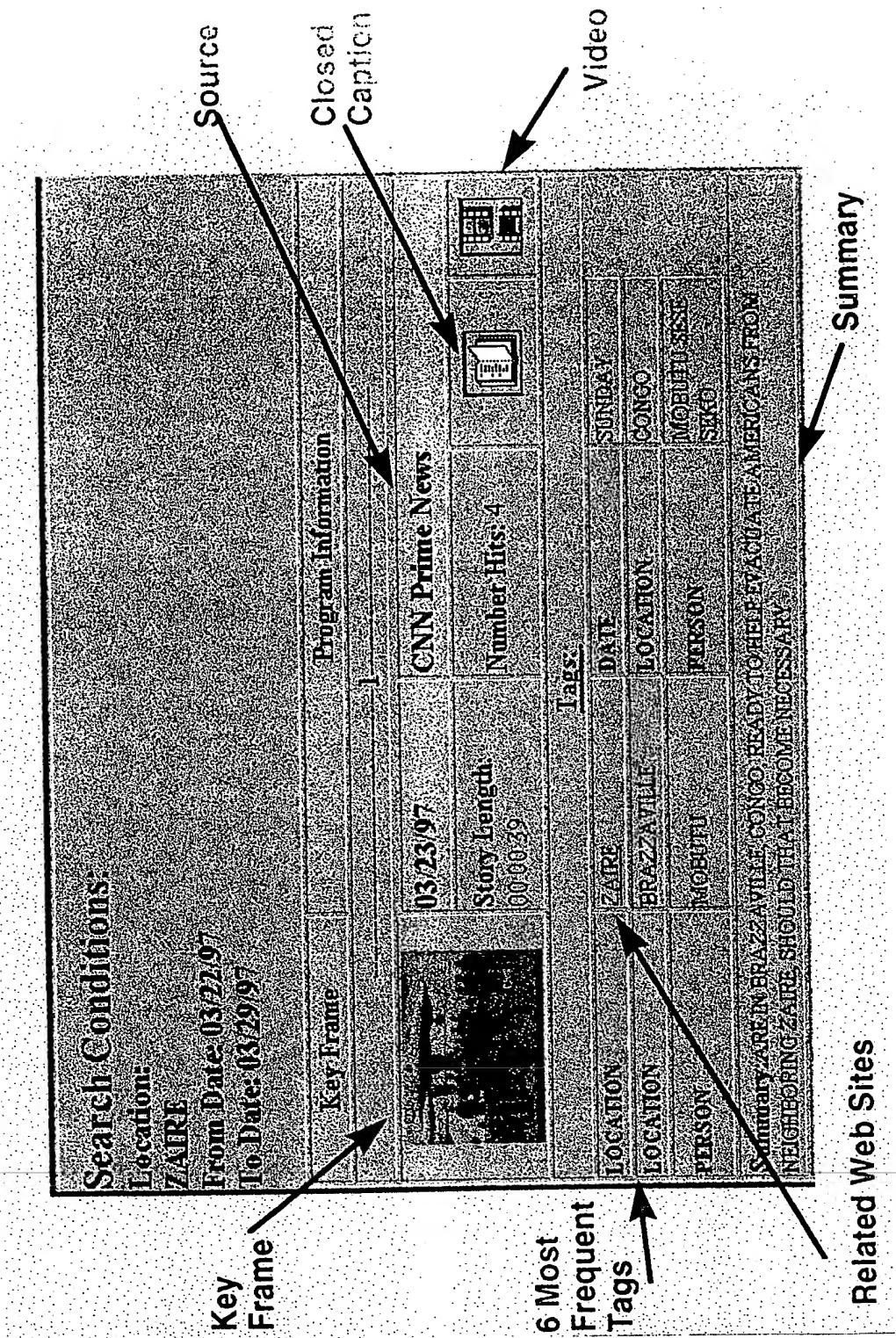


FIG. 19

Viewing the Video

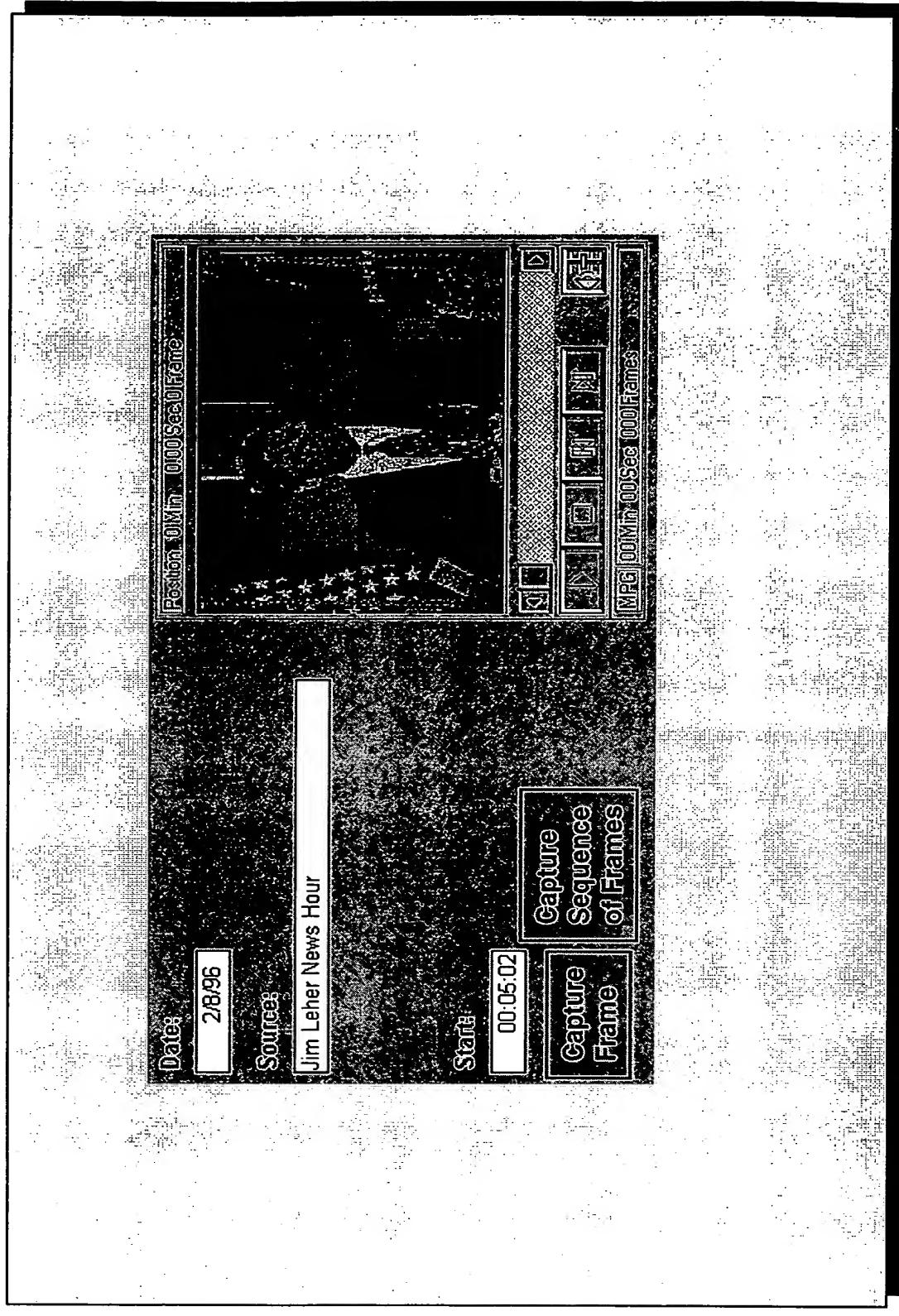


FIG. 20

MITRE Broadcast News Navigator - Netscape

File Edit View Insert Favorites Help Home http://videoserver3.mitre.org/h/owa/bnn3

Back Forward Stop Refresh Guide Help

Project BNNS Home BNNS Help BNNS Overview

Search BNNS Stories Search for Stories

• Back to BNNS Stories

• To select multiple items in a list, hold down the Shift key while clicking on items.

• To select contiguous items in a list, hold down the Shift key while clicking on the first item, then click on the last item.

• To select all items in a list, hold down the Ctrl key while clicking on the first item.

43.80 MARK AFRICAN AMERICANS AL GORE AL NI ALAN

Tropical Storm U.S. Military U.S. West Coast U.S. presidents United States

ROYAL AIR FORCE S.U.V. SENATE SENATE COMMITTEE SOVIET UNION

BUCHAREST BURBANK CALIFORNIA CALIFORNIA COAST CAMP

BNNS Usage BNNS Other Services

10

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FIG. 21

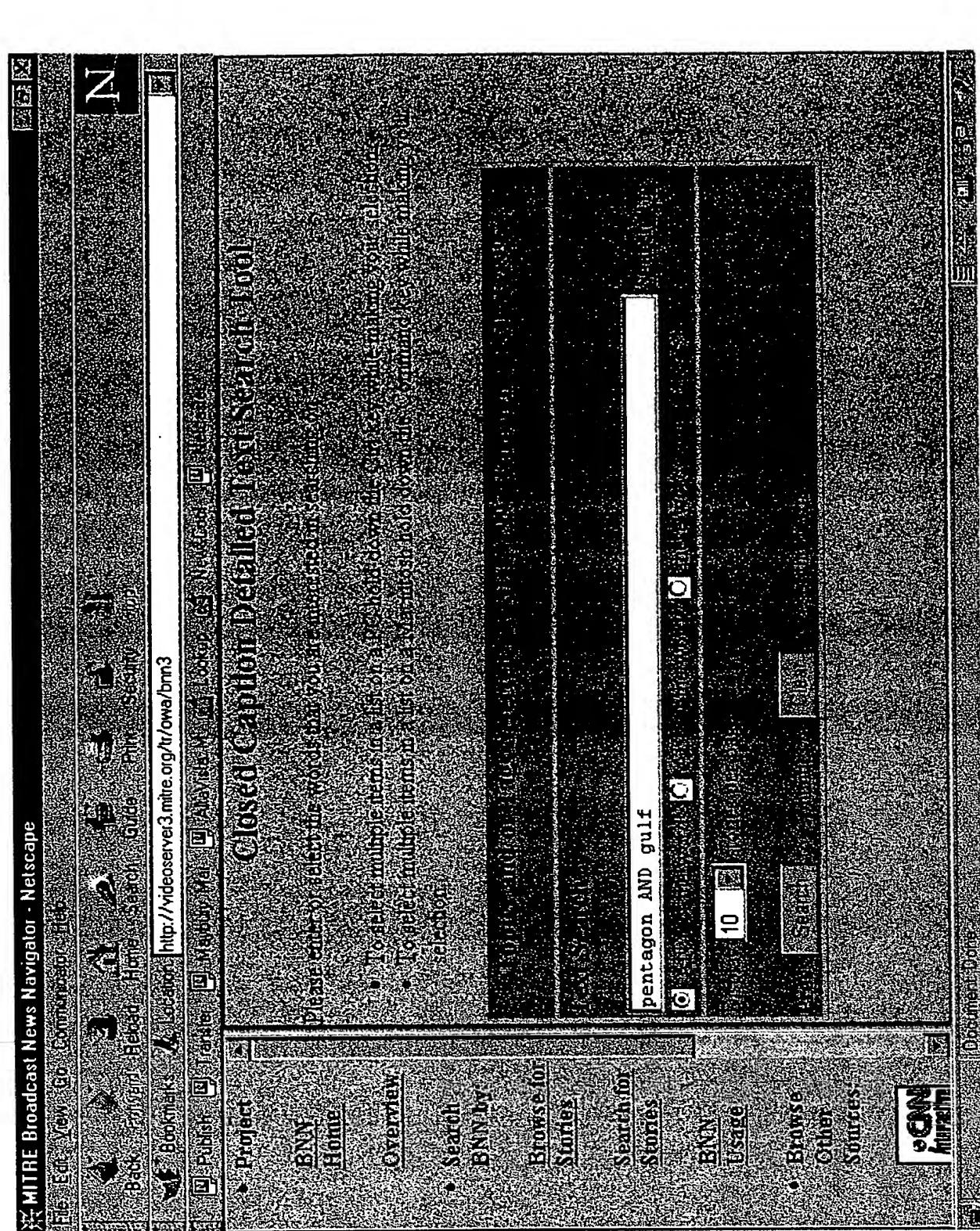


FIG. 22